

CLEAN CLAIMS

1 1. Apparatus for treating an interval of a wellbore, said apparatus comprising:
2 a sand screen unit adapted to be connected to the lower end of a workstring; and
3 a plurality of axially spaced, substantially blank conduits on the external surface of said
4 sand screen unit for delivering a particulate-containing fluid suspension to different axial portions
5 of said interval when said apparatus is in an operable position within said wellbore.

1 2. The apparatus of claim 1, the plurality of blank conduits extending
2 longitudinally along said external surface of said screen unit, each of said conduits extending only
3 a portion of the length of said interval and, at least one of said conduits having a lower end that
4 terminates at a different level within said interval than the others.

1 3. The apparatus of claim 1, the plurality of blank conduits extending
2 longitudinally along said external surface of said screen each of said conduits extending
3 only a portion of the length of said interval and, at lest one of said conduits having an
4 upper end positioned at a different level within said interval than the others.

1 4. (Amended) The apparatus of claim 1, including:
2 a shroud surrounding said sand screen unit and said delivery means, said shroud having a
3 plurality of openings in the wall thereof.

1 6. Apparatus for gravel packing an interval of a wellbore by supplying a gravel
2 bearing slurry, said apparatus comprising:
3 a sand screen unit adapted to be connected to the lower end of a workstring; and
4 a plurality of substantially blank tubes with the tube ends axially spaced about the
5 external surface of the sand screen unit for selectively delivering gravel slurry at a plurality of
6 spaced axial locations of said interval when said apparatus is in an operable position within said
7 wellbore.

1 7. The apparatus of claim 6, the plurality of substantially blank tubes extending
2 longitudinally along said external surface of said screen unit, at least one of said tubes having a
3 lower end that terminates at a different level within said interval than the others.

1 8. The apparatus of claim 6, the plurality of substantially blank tubes extending
2 longitudinally along said external surface of said screen unit, at least one of said tubes having an upper
3 end positioned at a different level within said interval than the others.

1 9. The apparatus of claim 6, including a shroud surrounding said sand screen
2 unit and covering said blank tubes, said shroud having a plurality of openings in the wall
3 thereof.

1 33. The apparatus of claim 1, at least one of the plurality of conduits extending
2 longitudinally along said screen unit less than half the length of said screen unit.

1 34. The apparatus of claim 1, further comprising a second sand screen unit
2 connected to said sand screen unit by a connector.

1 35. The apparatus of claim 34, wherein the end of the conduits are spaced apart
2 from the connector.

1 36. The apparatus of claim 1, the plurality of blank conduits extending
2 longitudinally along said sand screen unit, the blank conduits extending only a portion of
3 the length of said sand screen unit.

1 37. The apparatus of claim 1, the blank conduits having open ends.

1 38. The apparatus of claim 1, wherein the wellbore is uncased.

1 39. The apparatus of claim 1, wherein at least one pair of said blank tubes are
2 substantially coaxially disposed in a spaced-apart, end-to-end orientation.

1 40. The apparatus of claim 6, further comprising a second sand screen unit
2 connected to the sand screen unit by a connector.

1 41. The apparatus of claim 40, the ends of the blank tubes longitudinally spaced
2 from the connector

1 42. The apparatus of claim 6, the plurality of blank tubes extending
2 longitudinally along only a portion of said sand screen unit.

1 43. The assembly of claim 25, the at least one blank conduit having a solid
2 conduit wall, the only openings in the conduit at or near the ends thereof.

1 44. An apparatus for treating an interval of a wellbore, the apparatus
2 comprising
3 sand screen unit having a connector at each end for connecting the sand screen unit
4 to a workstring;
5 a plurality of longitudinally extending conduits axially spaced around the outside of
6 the sand screen unit, the conduits having ends thereto, the ends of the conduits
7 longitudinally spaced apart from the sand screen unit connectors.

1 45. The apparatus of claim 44, wherein at least two of the conduits are
2 substantially coaxially disposed in a spaced-apart, end-to-end relation.

1 46. The apparatus of claim 44, further comprising:
2 a shroud disposed about the sand screen unit and plurality of conduits.

1 47. The apparatus of claim 44, the conduits only open at the ends thereof.

1 48. The apparatus of claim 44, the ends of the conduits beveled.

1 49. The apparatus of claim 44, at least one of the conduits having an end at a
2 location longitudinally spaced from the ends of at least one of the other conduits.

1 50. The apparatus of claim 44, the conduits mounted on the outer surface of the
2 screen unit.

1 51. The apparatus of claim 44, further comprising a second sand screen unit
2 connected to one of the connectors.

1 52. The apparatus of claim 51, the second sand screen unit having a plurality of
2 longitudinally extending conduits axially spaced around the second sand screen unit, the
3 conduits of the second sand screen unit longitudinally spaced from the conduits of the first
4 sand screen unit.

1 53. The apparatus of claim 52, the conduits of the first and second sand screen
2 units unconnected one to another.

1 54. The apparatus of claim 44, the conduits arranged in staggered rows.